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10/768,412	01/29/2004	Charlie Steinmetz	200209323	6968

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

MARTIN, LAURA E

ART UNIT	PAPER NUMBER
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2853

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/768,412

Applicant(s)

STEINMETZ ET AL.

Examiner

LAURA E. MARTIN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,7-12,15-34 and 38-41 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3,7-12,15-34 and 38-41 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 7, 12, 15, 18, 19, 27, 28, 30, 31, 38, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatasa et al. (US 2002/0122104 A1) in view of Klaus et al. (US 5631681 A)

Hatasa et al. discloses the following claim limitations:

As per claim 1: an off-axis printing-fluid reservoir configured to hold a free volume of printing fluid (figure 1, element 1) and air mixed together therein, the printing-fluid reservoir having a substantially planar leading surface (figure 2, element 17); a printing-fluid interface recessed into the leading surface and extending into the reservoir and configured to move printing fluid out of the printing-fluid reservoir (figure 1, element 7 and figures 2 and 3, elements 17 and 17a) and [0109]; and an air interface recessed into the leading surface and extending into the reservoir and configured to move air into the printing-fluid reservoir as the printing fluid is moved out of the reservoir (figure 1, element 9, and figures 2 and 3, elements 17 and 17a) and [0109].

As per claim 3: the leading surface of the printing fluid reservoir is an upright surface configured for lateral insertion into a printing system (figure 1, element 4 is laterally inserted into printhead 3).

As per claims 7, 19, and 39: the printing-fluid interface is configured to laterally output printing fluid (figure 1, element 4 into element 3).

As per claim 12: an off-axis printing fluid reservoir configured to hold a free volume of printing fluid and air mixed together therein (figure 1, element 1), the printing fluid reservoir having a leading surface configured for lateral insertion into a printing system (figure 1, element 4 is laterally inserted into the printhead); a printing fluid interface recessed into the leading surface of the printing fluid reservoir and extending into the reservoir (figure 1, element 7 and figure 2, element 17a) wherein the printing fluid interface is configured to output printing fluid from the printing fluid reservoir during a first mode of operation [0109]; and an air interface recessed into the leading surface of the printing fluid reservoir and extending into the reservoir (figure 1, element 9 and figure 2, element 17a), wherein the air interface is configured to regulate pressure within the printing fluid reservoir by inputting air into the printing fluid reservoir during a first mode of operation [0109].

As per claim 15: the leading edge has a substantially planar profile (figures 1 and 2).

As per claim 18: a single structural piece forms the leading surface (figure 2, element 17).

As per claim 27: the printing-fluid interface is configured to receive a fluid connector that is in fluid communication with a printing-fluid ejector upon installation of the printing-fluid container into a printing system (figure 1, element 7).

As per claim 28: the printing-fluid interface is configured to deliver printing fluid to the printing fluid ejector via the fluid connector during the first mode of operation [0109].

As per claim 30: the air interface is configured to receive a fluid connector (figure 1, element 7) that is in fluid communication with a venting assembly (figure 1, element 8) upon installation of the printing fluid container into the printing system.

As per claim 38: storing a free volume of printing fluid and air mixed together in a reservoir (figure 1, element 1) having a printing fluid interface (figure 1, element 7) and an air interface (figure 1, element 9), allowing printing fluid to exit the reservoir through the printing fluid interface and allowing air to enter the reservoir through the air interface [0109].

Hatasa et al. does not disclose the following claim limitations:

As per claims 1, 7, 12, 31, 38, and 40: air and printing fluid moving into and out of the reservoir during a first and second mode.

Klaus et al. discloses the following claim limitations:

As per claims 1, 7, 12, 31, 38, and 40: air and printing fluid moving into and out of the reservoir during a first and second mode (figures 2 and 3, column 4, lines 40-54).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid container taught by Koizumi et al. with the disclosure of Klaus et al. in order to more easily refill the ink tank.

Claims 8, 20, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatasa et al. (US 2002/0122104 A1) and Klaus et al. (US 5631681 A), and further in view of Koizumi et al. (US 2003/0025773 A1).

Hatasa et al. discloses the following claim limitations:

The fluid container of claims 1.

Klaus et al. discloses the following claim limitations:

As per claims 8, 20, and 41: air and printing fluid moving into and out of the reservoir during a first and second mode (figures 2 and 3, column 4, lines 40-54).

Hatasa et al. as modified do not disclose the following claim limitations:

As per claims 8, 20, and 41, the air interface configured to laterally input air.

Koizumi et al. discloses the following claim limitations:

As per claims 8, 20, and 41, the air interface configured to laterally input air (figure 1, element 26, there is a lateral portion of the air supply line).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reservoir and apparatus taught by Hatasa et al. as modified with the disclosure of Koizumi et al. in order to better adjust the printhead pressure. It is also well known in the art to input and output air in a variety locations on the cartridge.

Claims 9-11, 26, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatasa et al. (US 2002/0122104 A1) and Klaus et al. (US 5631681 A), and further in view of Barinaga (US 5721576 A).

Hatasa et al. as modified discloses the following claim limitations:

A printing fluid assembly containing an air interface and a printing fluid interface.

Hatasa et al. as modified does not disclose the following claim limitations:

As per claims 9, 10, 26, and 29: a ball and septum assembly.

As per claims 11 and 32: the printing fluid interface and air interface respectively configured to conditionally block input and output of printing fluid and air unless engaged by a fluid container.

Barinaga discloses the following claim limitations:

As per claims 9, 10, 26, and 29: a ball and septum assembly (figure 8, elements 102 and 104).

As per claims 11 and 32: the printing fluid interface and air interface respectively configured to conditionally block input and output of printing fluid and air unless engaged by a fluid container (column 6, lines 4-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid assembly taught by Hatasa et al. as modified with the disclosure of Barinaga in order to prevent leaks from the printing fluid container.

Claims 16, 17, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatasa et al. (US 2002/0122104 A1) and Klaus et al. (US 5631681 A), and further in view of Childers (US 6116723 A).

Hatasa et al. as modified discloses:

The apparatus of claim 12.

Hatasa et al. as modified does not disclose the following claim limitations:

As per claim 16: the air-interface is above the printing-fluid interface on the leading edge of the printing-fluid reservoir.

As per claim 17: the air-interface is vertically aligned above the printing-fluid interface on the leading edge of the printing fluid reservoir.

As per claim 21: the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure substantially equivalent to an ambient atmosphere pressure.

As per claim 22: the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure above an ambient atmosphere pressure.

As per claim 23: the air-interface is configured to regulate pressure within the printing fluid reservoir to an operating pressure below an ambient atmosphere pressure.

As per claim 24: the air-interface actively regulates pressure within the printing-fluid reservoir.

As per claim 25: the air-interface passively regulates pressure within the printing-fluid reservoir.

Childers et al. discloses the following claim limitations:

As per claim 16: the air-interface (figure 1, element 26) is above the printing-fluid interface (figure 1, element 36) on the leading edge of the printing-fluid reservoir.

As per claim 17: the air-interface (figure 1, element 26) is vertically aligned above the printing-fluid interface (figure 1, element 36) on the leading edge of the printing fluid reservoir.

As per claim 21: the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure substantially equivalent to an ambient atmosphere pressure (column 2, lines 33-43).

As per claim 22: the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure above an ambient atmosphere pressure (column 4, lines 40-57).

As per claim 23: the air-interface is configured to regulate pressure within the printing fluid reservoir to an operating pressure below an ambient atmosphere pressure (column 4, lines 40-57).

As per claim 24: the air-interface actively regulates pressure within the printing-fluid reservoir (column 2, lines 33-43).

As per claim 25: the air-interface passively regulates pressure within the printing-fluid reservoir (column 4, lines 40-57).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid container taught by Hatasa et al. with the disclosure of Childers et al. in order to provide a higher quality printing apparatus in which the pressure is properly regulated.

Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koizumi et al. (US 20030025773) in view of Klaus et al. (US 5631681) and Barinaga (US 5721576).

Koizumi et al. discloses the following claim limitations:

As per claim 33: an off-axis printing fluid reservoir configured to hold a free volume of printing fluid and air mixed together therein (figure 1, element 22); an upright leading surface (the cartridge can be moved to make any surface upright; also, in figure 8, Koizumi discloses an upright leading edge during printing. It is well known to place printing reservoirs on different sides for printing, and this is illustrated in Koizumi's multiple reservoir placings) of the printing fluid reservoir wherein the printing fluid interface is configured to output printing fluid from the printing fluid reservoir during a first mode and a printing fluid interface on the upright leading edge of the printing fluid reservoir wherein the air interface is configured to regulate pressure within the printing fluid reservoir by inputting air into the printing fluid reservoir during a first mode; and wherein the container is laterally installed into a printing system (figure 1, element 17 is laterally installed into the printhead) and the first fluid container engages the printing fluid interface and a second fluid container engages the air interface (figure 1, element 29).

As per claim 34: a single structural piece forms the upright leading edge of the printing fluid reservoir (figure 1, element 22)

Koizumi et al. does not disclose the following claim limitations:

A second mode in which the air exits the printing fluid container and fluid enters the printing fluid container and a ball and septum assembly.

Klaus et al. discloses the following claim limitations:

Air and printing fluid moving into and out of the reservoir during a first and second mode (figures 2 and 3, column 4, lines 40-54).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid container taught by Koizumi et al. with the disclosure of Schefflin in order to more easily refill the ink tank.

Barinaga discloses the following claim limitations:

As per claims 9, 10, 26, and 29: a ball and septum assembly (figure 8, elements 102 and 104).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid assembly taught by Koizumi et al. with the disclosure of Barinaga in order to prevent leaks from the printing fluid container.

Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatasa et al. (US 2002/0122104 A1) in view of Klaus et al. (US 5631681 A) and Barinaga (US 5721576 A).

Hatasa et al. discloses the following claim limitations:

As per claim 33: an off-axis printing fluid reservoir configured to hold a free volume of printing fluid and air mixed together therein (figure 1, element 1); an upright leading surface of the printing fluid reservoir wherein the printing fluid interface is configured to output printing fluid from the printing fluid reservoir during a first mode and a printing fluid interface on the upright leading edge of the printing fluid reservoir wherein the air interface is configured to regulate pressure within the printing fluid reservoir by inputting air into the printing fluid reservoir during a first mode [0109]; and wherein the container is laterally installed into a printing system (figure 1, element 4 is

laterally installed into the printhead 3) and the first fluid connector engages the printing fluid interface and a second fluid connector engages the air interface (figure 2, element 17 and figure 1, elements 7 and 9).

As per claim 34: a single structural piece forms the upright leading edge of the printing fluid reservoir (figure 2, element 17)

Hatasa et al. does not disclose the following claim limitations:

A second mode in which the air exits the printing fluid container and fluid enters the printing fluid container and a ball and septum assembly.

Klaus et al. discloses the following claim limitations:

Air and printing fluid moving into and out of the reservoir during a first and second mode (figures 2 and 3, column 4, lines 40-54).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid container taught by Hatasa et al. with the disclosure of Klaus et al. in order to more easily refill the ink tank.

Barinaga discloses the following claim limitations:

As per claims 9, 10, 26, and 29: a ball and septum assembly (figure 8, elements 102 and 104).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid assembly taught by Hatasa et al. with the disclosure of Barinaga in order to prevent leaks from the printing fluid container.

Claims 35-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koizumi et al. (US 20030025773) in view of Klaus et al. (US 5631681)

Koizumi et al. discloses the following claim limitations:

As per claim 35: a printing fluid container comprising: a reservoir means for holding a free volume of printing fluid and air mixed together therein (figure 1, element 22), means for laterally outputting printing fluid from the reservoir during a first mode of operation and inputting air during a first mode of operation [0045].

As per claim 36: means for laterally outputting fluid is vertically aligned below the means for regulating pressure (figure 1, elements 17 and 18 – there are two ways of regulating pressure, the pump, attached to 18 and air input, element 27).

As per claim 37: the means for laterally outputting printing fluid and means for regulating pressure are arranged on a single structural piece (figure 1, elements 24 and 30 and elements 17 and 18).

As per claim 38, a method of supplying printing fluid, comprising: storing a free volume of air and printing fluid mixed together therein (printing fluid and air are in the container together) in a reservoir having an air interface and a printing fluid interface; allowing printing fluid to exit the reservoir through the printing fluid interface and allowing air to enter the reservoir through the air interface during a first mode of operation.

Koizumi et al. does not disclose the following claim limitations:

As per claims 38-41 air and printing fluid moving into and out of the reservoir during a first and second mode.

Klaus et al. discloses the following claim limitations:

As per claims 38- 41 air and printing fluid moving into and out of the reservoir during a first and second mode (figures 2 and 3, column 4, lines 40-54).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing fluid container taught by Koizumi et al. with the disclosure of Klaus et al. in order to more easily refill the ink tank.

Response to Arguments

Applicant's arguments with respect to claims 1, 3, 7-12, and 15-32 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 3/3/08 have been fully considered but they are not persuasive.

As per independent claim 33: applicant argues that there is no part of ink tank 22 that can be considered an upright leading surface; however, the examiner disagrees. First, the ink tank can be moved around so that any surface can be an upright surface; there is no claim language that limits the movement of the ink tank to make any surface upright. Second, it is shown in Koizumi et al. that tanks can be placed in multiple ways – figures 1 and 8 both show the leading edge during printing being on a different side.

As per independent claim 38: applicant argues that Klaus does not teach a printing fluid interface that allows ink to return into the reservoir; however the examiner disagrees. Element 54 in figure 3 is an ink refill port. The claim does not specify whether the ink has previously exited the reservoir or whether the ink is new ink being

refilled into the ink reservoir. Thus, the examiner believes that Klaus reads on the present claim language.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **LAURA E. MARTIN** whose telephone number is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. E. M./

Laura E. Martin

/Manish S. Shah/

Primary Examiner, Art Unit 2853